

Appl. No. 09/935,774  
Amdt. dated 8/3/07  
Customer No. 27752

RECEIVED  
CENTRAL FAX CENTER  
AUG 03 2007

## REMARKS

### Claim Status

Claims 12-35 are pending in the present application. Claims 12, 13, 14, 17, 18, 19, 21, 22, 23, 26, and 33 are amended. Claims 1-11 and 36 are canceled without prejudice. No additional claims fee is believed to be due.

Basis for the claim amendments is generally found at pages 15 and 16 of Applicant's specification. For example, page 16, lines 3- 7, discusses data that is generated when a consumer places/removes/replaces a product in a shopping cart. *See also* page 15, lines 23 - 25 discussing *inter alia* "incorporating technology which tracks which products consumer actually place in carts at particular times." This "technology" may include Radio Frequency identification tags ("using RF identification tags on the product," page 16, lines 1-2).

It is believed these changes do not involve any introduction of new matter. Consequently, entry of these changes is believed to be in order and is respectfully requested.

### Rejection Under 35 USC §112, Second Paragraph

The Office Action rejects claim 14 (and the claims that depend therefrom) as lacking insufficient antecedent basis for the limitation "the tracking system" in line 1. The Office Action also rejects the claims since it describes an apparatus. Applicant overcomes the rejection by amending claim 14. Notably, claim 14 is amended to clarify that the method further comprises using a "tracking system." It is the tracking system, according to claim 14, that generates the product container tracks and product tracks described in claim 12 (to which claim 14 depends from).

Appl. No. 09/935,774  
Amdt. dated 8/3/07  
Customer No. 27752

RECEIVED  
CENTRAL FAX CENTER  
AUG 03 2007

Rejection Under 35 USC §103 Over Gupta (US 6,820,062)

The Office Action rejects claims 12-13, 16-24, 26-32, and 34-35 under 35 USC 103(a) as being unpatentable over Gupta (US 6,820,062). Applicants overcome the rejection by amending the claims.

As to independent claim 12 (and claim 26), the Office Action cites to col. 12, lines 37-58 of Gupta as purportedly disclosing the claimed invention, but admits that Gupta does not explicitly teach that the tracks are being representative of a continuous path, but it would be obvious (according to the Examiner) to so in order to accurately and efficiently analyze the behavior of a consumer inside a store.

In response, Applicant amends claim 12 to include generating product tracks, in addition to *product container* tracks (where "product containers" include shopping carts, shopping baskets, shopping bags, etc.). The product tracks, per the amended claim, are generated using *inter alia* Radio Frequency identification tags on the product and sensors sensing these tags. Claim 26 is similarly amended in that location data is generated, and a track is generated therefrom, by using a plurality of Radio Frequency identification tags on the products and sensors sensing these tags. Therefore, the product tracks are generated using *inter alia* Radio Frequency identification tags on the products and sensors sensing these tags.

The advantages to the present invention, in view of this present amendment, are at least three fold. Firstly, Gupta's disclosure appears to require the shopper to actively scan products while shopping using a system that includes a bar code scanner to read UPCs from products. *See eg.*, Abstract. Gupta implicitly requires shoppers to adopt a

Appl. No. 09/935,774  
Amdt. dated 8/3/07  
Customer No. 27752

new shopping behavior by requiring this product UPC scanning step. Many researchers would submit that requiring shopper to adopt a new behavior adds bias to study results. This bias may be further exacerbated by Gupta's system that provides to the shopper information, paid advertisements, or information that is advantageous to the store while the shopper is shopping. See Gupta at col. 7, line 64 *et seq.* Such a system is arguably used to modify a shopper's behavior versus objectively studying the shopper's shopping behavior. With Applicant's invention, the shopper simply goes about her shopping experience as she has always done. The shopper's natural shopping behavior need not be modified. There are no new behaviors or steps the shopper needs to learn with Applicant's invention thereby likely yielding results that are more objective and unbiased.. Secondly, Applicant's invention "could give an even more accurate picture of a [shopper's] behavior than merely identifying items in a cart from the final point-of sale [POS] data. For example, such an embodiment [i.e., using of RF identification technology] could not only sense when a [shopper] places particular objects in the cart, but when items are removed and/or replaced by other items." See page 16, lines 3-7 of Applicant's specification. Lastly, many products, having the same UPC, are located in multiple and different locations throughout the store. Alkaline batteries, such as Applicant's DURACELL brand, are such an example. It is not clear (from Applicant's reading) how the Gupta disclosure would account for this scenario. But Gupta does admit, per the Examiner citation to col. 12, line 43—44, that "utility program may *partially reconstruct* the shopper's path through the store." Such a partial path ostensibly exacerbates a multiple product location scenario. In sum, Applicant's invention provides the advantage of assessing shoppers in a more natural shopping environment (whereby the data is presumably more indicative of a natural shopper behavior), but also is likely

Appl. No. 09/935,774  
Amdt. dated 8/3/07  
Customer No. 27752

RECEIVED  
CENTRAL FAX CENTER  
AUG 03 2007

more accurate since the invention could better take into account when shoppers are removing/replacing products in their cart.

Applicant submits that since independent claim 12 is patentable for the reasons discussed, dependent claims that depend from claim 12 are also patentable.

Rejection Under 35 USC §103(a) Over Gupta and DeTemple.

Claims 14-15, 25, and 33 are rejected under 35 USC §103(a) as being unpatentable over Gupta and DeTemple (US 5,572,653). Applicant overcomes the rejection by amending the claims.

Claim 33 is amended to include generating product tracks, in addition to product container tracks (wherein "product containers" include shopping carts, shopping baskets, shopping bags, etc.). The product tracks are generated using *inter alia* Radio Frequency identification tags on the products and sensors sensing these tags. Applicant submits that neither Gupta (for the reasons states above) nor DeTemple teach or suggest this claim limitation. DeTemple, at best, discloses combining cart tracking data with POS [Point-Of-Purchase] data to determine the products purchased. *See e.g.*, col. 7, l. 47 – 65; *esp.* col. 7, l. 62 – 64 ("Combining this information with the POS data it is possible to know what path was taken in the store, the products purchased...."). Looking at POS data, per DeTemple, likely does not give a more accurate picture of a shopper's behavior than is possible by Applicant's invention. Using RF identification technology could not only sense when a shopper places particular objects in the cart, but when items are removed and/or replaced by other items. See page 16 lines 3-7. Of course POS data also does not

Appl. No. 09/935,774  
Amdt. dated 8/3/07  
Customer No. 27752

solve the problem associated with a product being found in different areas of a store (e.g., alkaline batteries).

Applicant traverses the Office Action's finding that Figure 2 of DeTemple teaches presenting a virtual store environment having a plurality of virtual store parameters associated therewith corresponding to the real store parameters, the virtual store environment being characterized by virtual store effects which are determined using the virtual store parameters and the relationships between the plurality of real store parameters and the plurality of real store effects. *See* page 7, lines 11- 15 of the Office Action. As an initial matter, Applicant respectfully submits the Office Action fails to make a *prima facie* showing of obviousness since there is not explanation of how figure 1, which is a block diagram of the specific elements of the electronic information display system shown in their operative relationship with each other (col. 3, l. 65-67), teaches "presenting a virtual store environment." A vague reference to Figure 1 of DeTemple by the Office Action fails to provide an analysis such that Applicant can meaningfully respond. Moreover, Applicant submits that a method that combines a "virtual step" with a "real steps" (per claim 33) in analyzing store parameters is a powerful one. Indeed, methods that use virtual steps can significantly reduce time and expensive associated with those methods that exclusively use a real store environment. The Examiner is referred to a recent article (published after Applicant's priority date) from *Popular Science*, attached as Attachment 1, entitled, ""Business as Unusual," that discusses how Applicant (The Procter & Gamble Co.) uses virtual tools in designing *inter alia* consumer products. *See* e.g., page 2, column 3 beginning with the subtitle, "Virtual Product Testing," and use of virtual tools such as 3-D "caves" for testing virtual prototypes.

RECEIVED  
CENTRAL FAX CENTER

AUG 03 2007

Appl. No. 09/935,774  
Amdt. dated 8/3/07  
Customer No. 27752

Applicant submits that since independent claims 12, 26, and 33 are patentable for the reasons discussed, and as such, the dependent claims that depend from these independent claims are also then patentable.

Conclusion

This response represents an earnest effort to place the present application in proper form and to distinguish the invention as claimed from the applied reference(s). In view of the foregoing, entry of the amendment(s) presented herein, reconsideration of this application, and allowance of the pending claim(s) are respectfully requested.

Respectfully submitted,

THE PROCTER & GAMBLE COMPANY

By

David V. Upite

Registration No. 47,147  
(513) 634-9345

Date: 3 August 2007  
Customer No. 27752

Application No. 09/935,774  
Amdt. Dated 8/3/07  
Customer No. 27752

## ATTACHMENT 1

**MIRACLE ENERGY MACHINE**

How to Turn Toxic Waste into Clean Power p.56

**BUTTERFLIES B  
TERRORIS****POPULAR  
SCIENCE****THE  
FUTURE  
NOW****33 H  
PROD****Is This  
Your Next  
Remote?****This Silent  
Luxury Jet  
Flies Coast-to-  
Coast in 2 Hours** p.64**THE  
GOO  
MOON  
YOUR  
IN 20  
P.40****The Hummer**





# NEWS CRAWL

BREAKING HEADLINES

...United Korea lifts import tariff...  
Toyota reports growth in personal  
flight sector...British scientists:  
hygiene at all-time high...Hurricane

# enl INFO



utes ago  
GROWTH  
ar. 65 years  
(est). \$50,000 per annum  
record congratulations

# WEATHER

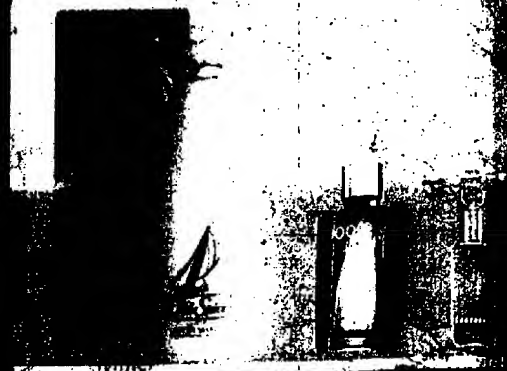
HURRICANE UPD



Hurricane Eddie  
expected to hit E  
Tuesday morning

20/20 VISION In P&G's  
"virtual cockpit" concept,  
an employee can scan  
the operations of the  
company the way a pilot  
scans his instruments.

# European Sectors - 1st Qtr 20



OLD SPICE (8 oz. orig. SKU 25438)  
Growth Market: Italy, EU  
Regional Units (ytd): 238.012

rich HERE to speak with Edouardo  
anal VP, sales, Milan

# TRAVEL

WEEKEND BREAK



# P & G STOCK TICKER

MARKET CLOSING FIGURES



# B

In the b  
maveric

IF YOU  
compan  
place ter  
would al  
list. Fron  
170-year  
goods is  
corporat  
produce  
Clairol, F  
of things  
prizes or  
Cincinnati  
conserva  
(they're  
pany's 10  
years wi  
While  
the Pam  
however  
ist think  
at P&G:  
business  
reality. A  
erable co  
compute  
pany is s  
world's r  
product  
billion d  
inside its  
other old  
sider sta  
years. Sc  
and trad  
future, y

THE 11  
Any info  
carries a  
ter acqui  
data mai

GETTY IMAGES (6); SUPERSTOCK (1); OLD SPICE COURTESY P&G; HURRICANE COURTESY INTELLICAST

50 POPULAR SCIENCE MARCH 2007

1tr 2007

THE FUTURE OF WORK

# BUSINESS AS UNUSUAL

In the bowels of Procter & Gamble, one of the country's biggest, grayest companies, a maverick group is developing the cutting-edge future of the workplace **BY JULIE SLOANE**

**IF YOU WERE ASKED** to name five companies shaping the future of workplace technology, Procter & Gamble would almost certainly not make your list. From its products to its people, the 170-year-old grand dame of consumer goods is a standard-bearer of the big, corporate, nine-to-five workplace. It produces such supermarket staples as Clairol, Folgers and Old Spice—the sort of things given away as consolation prizes on *The Price Is Right*. And P&G's Cincinnati-based staff embodies a clean, conservative, Midwestern sensibility (they're famously loyal; most of the company's top executives have spent enough years with P&G to merit a gold watch).

While thousands of researchers plot the Pampers and Pringles of tomorrow, however, a little-known band of futurist thinkers is cooking up something else at P&G: cockpit-like displays of real-time business data, digital notebooks, virtual reality. Not the traditional fare of big, venerable companies, with big, antiquated computer systems. And because the company is such a marketplace leader—the world's number-one maker of household products has 22 brands worth at least a billion dollars—anything P&G implements inside its walls today determines what other old-school companies will consider standard business practice in a few years. So when a company this influential and traditional begins to tinker with the future, you know the future's coming.

## THE IT DEPARTMENT REMADE

Any information-technology (IT) worker carries a double burden. No one is better acquainted with a company's kludgy data management and outdated systems,

yet rather than consult on-the-ground IT workers about the big picture, upper management typically ignores them. P&G has done it differently. In 2003, as part of a 10-year, \$3-billion outsourcing deal, the firm turned over half its IT functions—the mundane maintenance stuff—to Hewlett-Packard. With a few signatures and handshakes, 2,000 P&G techies became HP employees.

Over the next two years, Procter & Gamble became a very attractive company for IT people. It reshaped its remaining 4,000-person IT force, recast it as Information and Decision Solutions (IDS), and put Filippo Passerini in charge. Passerini is an IT guy's dream boss. A native of Rome, he has worked at P&G for his entire 25-year career, mostly managing IT operations in Europe, the Middle East and Latin America. He's competent in a way that IT people respect. He has the political gift of remembering names and winning over strangers with a warm handshake and a few words. And for the people who work for him (especially when your job title makes people think of *Star Trek* T-shirts), it's nice to have a sophisticated, smooth-talking, trilingual Italian as your protector. Over the past two years, Passerini has eaten group lunches with more than 15,000 P&G employees, asking the kinds of big-picture questions that almost never get asked: What drives you craziest about the process around here? If you could have a fantasy tool that made your job easier, what would it be?

P&G wanted Passerini, an organization freak who breaks his day into five-minute increments, to make the company tighter, leaner and faster. For a company making toothpaste, air freshener and laundry detergent, having that new Swiffer gizmo

out even a few days ahead of a competitor's version can mean millions of dollars in profit. To that end, Passerini tasked roughly 400 employees—20 percent of IDS—to develop the IT of P&G's future. Now IDS employees working in one of several teams spend their days weighing far-out solutions to high-level problems. How can prototyping happen more quickly? What's the best way to ensure that no one's doing the same job twice? Instead of puzzling over a broken server, IDS techies spend their days puzzling over how workers can be better served, and then they wire the solutions together.

In committing money and people to developing future tech, says Lewis Cardin, a senior analyst of IT leadership at Forrester Research, P&G is unique. "Most CIOs are only able to manage things the way they are today, in 2007," he says. Passerini's band of futurists are preparing for problems the other big corporations aren't even thinking about yet. And if other companies aren't watching what Passerini and his people are up to, Cardin says, "they should be."

It may sound like classic start-up enthusiasm, but this is no 30-employee dot-com. When you consider that anything P&G does must withstand intense legal and corporate scrutiny and work on a tremendous scale—140,000 employees in 80 countries—what P&G is trying to pull off suddenly looks a lot gutsier.

## QUARTERLY REPORTS, HOURLY

At a company as large as P&G, information is like a wave on the shore: It crashes onto the rocks and flows into tide pools and crevasses throughout the company. Some is retained, some is lost forever. If a P&G marketer in Toronto wants to point out a

GETTY IMAGES (6); SUPERSTOCK (1); OLD SPICE COURTESY P&G; HURRICANE COURTESY INTELLICAST

#### PERSONAL TOUCH

Rather than making prototypes, trying them on focus groups, and then remaking them, P&G tests virtual products.

problem to his boss concerning, say, how many tubes of Crest were sold in Canada last week, he must gather data from e-mails, letters, phone calls and reports from inside and outside the company. Only after days of digging can he compile and analyze the resulting data and issue a report to his superior, who adds it to the pile on his desk. Weekly reports, quarterly reports, annual reports—they're just an accepted part of doing business today.

IDS is making that mess of papers and conversations tidy, centralized and digital. What if that same marketer could glance at a yellow circle in the lower-left-hand corner of his computer screen at any time and know by its size how well Crest is selling? While he's at it, why not give him the ability to see, for instance, in what hours of the day customers bought Crest in Argentina?

P&G is laying the groundwork for such a system with what it calls "decision cockpits." The problem with reports, P&G brand managers told Passerini at lunch, is both the lag time in receiving the data—a

two-week delay on even simple data requests was not uncommon—and the fact that there aren't enough cups of coffee in the world to read and absorb what comes back.

In the same way a pilot quickly scans his instruments, P&G wants to present real-time data in visual form. In the current iteration, a highly sophisticated onscreen display offers information such as bar charts for the market share of a product by country, city or even store, or container information from a port warehouse shipping products abroad. Employees can quickly and easily refine what they're shown to ensure that the display emphasizes the most useful information. The next step is to link the company's various distribution channels through radio-frequency identification (RFID) tags affixed to crates and products, as companies like Wal-Mart have done so successfully to keep track of their inventory. It's that interconnectedness that will truly make total corporate awareness feasible.

Other companies (P&G points to BP, Exxon and IBM) are also experimenting with cockpits, but P&G believes that it is planning to use them on an unprecedented scale. An early version has been rolled out to 3,000 employees, including CEO Alan Lafley. In the next two years, P&G hopes to add 30,000 more, and IDS designers are dreaming of a room-size, virtual-reality version in which employees can close the door and study their responsibilities in vivid detail.

#### VIRTUAL PRODUCT TESTING

Nothing leaves Procter & Gamble without high marks from a focus group. At any given time in one of several labs around the world, someone is sniffing a new deodorant, or thoughtfully chewing a stick of a new gum, while researchers take notes on clipboards.

For each focus group, P&G creates several physical samples of its product, which are then refined and tested again. At any consumer-products company, this sort of back-and-forth is part of the process. But P&G is taking it a step further. IDS created a virtual baby that sits, crawls, and toddles in 3-D while wearing—you got it—a virtual diaper. "Based on what we know of mechanics," says IDS's Keith Caserta, an associate director and head of health care R&D, "is the diaper going to bunch up and be uncomfortable? Is it going to leak?" If so, an adjustment to the virtual diaper can happen that same day. "You can test a diaper in hours instead of weeks," Passerini enthuses. In addition, Caserta points out, virtual testing allows scientists around the globe to collaborate on a product-development project, without the delays and inconvenience of travel. Only at the end of the process does the company need to spend the time and money on creating a tangible version.

Today P&G has four "caves" for testing virtual prototypes and working in 3-D: in Japan, England, Switzerland and Cincinnati. Built inside a black room, each cave is a 10-foot-square cube made of white panels, open on the top and one side. Using high-end stereoscopic projectors, images are projected onto the three walls and the floor. By donning special plastic glasses, visitors to the cube experience the projected

## THE FUTURE OF WORK

world—a baby-changing room, a suburban kitchen, a Wal-Mart aisle—as if they are physically inside it, and scroll through the environment with a hand controller.

Any beachfront arcade has a virtual-reality game these days. But this VR world has to be real in much more than the virtual sense of the word, responding to the laws of supply, demand, proportion and other logistical limitations imposed on it from all over the company. P&G engineers also use the caves to design the layout of manufacturing plants and assembly lines. In the future, Caserta says, P&G scientists will even plot their equations in 3-D and walk around inside the data to ponder it in new ways.

### SYNCHRONIZED NOTE-TAKING

If you've ever wondered, when your boss handed you an unpleasant project, why someone else couldn't have done this, the answer is often that someone already did. Duplicate effort is all too common at big

companies, and P&G estimates that 15 percent of all its research is duplicated work.

The waste is extraordinary. Of P&G's 8,000 researchers, 5,500 regularly record experimental data in lab notebooks, each spending an average of 10 hours per week writing. For legal reasons, the company must retain all of these notebooks, so failed experiments wind up buried under thousands of pounds of paper. Rather than dig through it all to see whether the work's been done before, it's often easier for P&G researchers to just repeat the experiment.

The company is calling its first step toward tracking these experiments the "electronic notebook" and says it's already saving each scientist two hours a week in scrawl time. In its current, humble iteration, the "notebooks" are a Web site, used by a test group of 200 researchers to record their work. Once entries are completed, the data is frozen. Any changes must be tracked, key to legally proving who invented what when (Intellectual property

is serious business at P&G). The company plans to expand to 1,000 users by September. In partnership with Plano, Texas-based UGS, the software will be commercially available to anyone in March. Combined with a pen that transmits jotted notes to a computer as digital text, the system could be as convenient as writing by hand, while at the same time archiving every word.

The site is an early step toward Passerini's vision of a transparent, interconnected organization. "If you think about it," Passerini says, "what holds you to a physical office is your filing cabinet. Why can't the digital world match the physical world?" Using technology similar to that in the prototyping caves, IDS is researching the notion of a virtual filing cabinet, where, by touch or voice command, an employee might flip through sensitive documents, which look as they do in a filing cabinet, and graphically pull out the required one. Related documents would appear to the side of the one you're "holding," and, most important, a constant search of the system for related keywords, images and project names would bring up any similar work other employees had already completed.

Working for a corporate behemoth, it's easy to get lost in the day-to-day of the present. But by injecting new, more dynamic visual interfaces at P&G, Passerini believes that even the most complicated future technologies will become intuitive and helpful parts of the workaday world. "For my grandfather, a refrigerator was breakthrough technology," he says. "But we don't even consider that to be a form of technology anymore. It's just part of our lives." If P&G succeeds in popularizing its vision of the visual, searchable workplace, Passerini's own grandchildren will laugh at the thought of making prototypes by hand or waiting weeks to get back data analysis. Which isn't to say that Passerini's excitement will be passed on to the next generation. To them, spending the workday fitting giant 3-D diapers onto a virtual baby may be just as mundane as punching the clock at a company that makes toothpaste and laundry detergent.

*Julie Sloane is an editor at large at Fortune Small Business magazine.*

## IDS IS MAKING P&G'S MESS OF PAPERS AND CONVERSATIONS TIDY, CENTRALIZED AND DIGITAL.

STAY ORGANIZED Virtual filing cabinets save researchers from repeating experiments that have already been done.